

Explanation

Blacksburg South, modified from Nystrom (2004), 1:24,000 scale

Qal Quaternary alluvium

Intrusive Rocks

Ztr Metatronjemite - Light gray to light yellow, medium-to coarse-grained felsic gneiss with mafic intrusions

Zto Metatonalite - Light to medium gray, coarse-grained, with large Kspar and quartz grains

Inner Piedmont Belt

Czss Sillimanite-mica schist - Generally thin-bedding sillimanite mica schist, with or without garnets, that is interlayered with subordinate biotite gneiss and amphibolite

Czbg Biotite gneiss - Fine to coarse-grained, gray thin-to thick-layered, biotite-quartz-feldspar gneiss with varying amounts of garnet

Czq Quartzite - White, variably textured ridge-forming quartzite

Czgs Garnet-mica schist - Brownish gray, garnet schist characterized by large garnets 1-2 cm in diameter. Associated with quartzite

Kings Mountain Sequence of Carolina Terrane

Zbls Phyllitic metasilstone - Light to dark gray phyllite composed mainly of quartz and white mica, locally garnetiferous

Zblq Laminated quartzite - White to gray, fine- to medium grained, laminated quartzite

Zblg Gaffney Marble Member - Light gray to blue gray, fine- to coarse grained, banded marble, not well exposed

Dog Gneissic metagranite - Light gray to greenish gray, medium- to coarse grained, biotite metagranite

Zbms Mafic schist with quartzite - Dark gray schist with iron beds and quartzite

Zbs Quartz sericite phyllite and schist - Fine to medium-grained, commonly thinly layered

Zbmp Phyllitic metatuff - Gray to dark gray varied volcanics including crystal and lithic metatuffs. Included Jumping Branch manganese beds

Zbct Plagioclase crystal metatuff - Gray, generally well foliated, assorted volcanics of mainly felsic to intermediate composition, with crystal and less abundant lithic metatuffs

Zbvm Mafic to intermediate metavolcanic rocks - Medium gray, dark gray, or green hornblende phyllite, hornblende gneiss and amphibolite

Zbvf Felsic metavolcanic rocks - White to medium gray, medium grained, assorted felsic metavolcanic rocks

Zbj Jumping branch Member - Brown to dark gray or nearly black, garnet-quartz rock or interlayered with brown, fine-grained quartz sericite schist

Zbq Quartzite - White to gray, fine- to medium grained quartzite

Zbkq High alumina quartzite - Medium gray kyanite quartzite

Zbdc Draytonville Metaconglomerate Member - Light gray, coarse-grained, schistose metaconglomerate

Zbc Quartz pebble metaconglomerate - Light gray, schistose with quartz pebbles 1-2 cm in diameter

Wilkinsville & Hickory Grove, modified from Horton and Dicken (2001), 1:500,000 scale

Cg Granite (Carboniferous and Permian)

mtg Biotite metatonalite and granodiorite (Paleozoic or Neoproterozoic?)

PzZg Metamorphosed quartz diorite to diorite (Paleozoic or Neoproterozoic?)

Zbf Felsic metavolcanic rocks

Zbm Mafic to intermediate metavolcanic rocks

Kings Creek, modified from Howard (2004), 1:24,000 scale

Qal Alluvium - Deposits of sand and gravel with lesser amounts of silt and clay accumulated in flood plains of major streams

Kings Mountain Sequence of Carolina Terrane

Zbls Phyllitic metasilstone and Quartzite - Very pale orange, micaceous metasilstone with very fine to fine grained and lineated quartzite float. Rock is composed chiefly of quartz, feldspar, and white mica. Compositional layering consists of quartz layers and fine white mica domains, less than 1 cm. Scattered pieces of dark-greenish-gray phyllonite are probably interlayered. Correlative with phyllitic metasilstone and laminated micaceous quartzite members of the Blacksburg Formation

Zbs Quartz schist, metasilstone, and phyllite - Very pale orange and grayish-yellow, fine- to medium grained quartzofeldspathic rock, includes quartz schist, meta-arenite, metasilstone, and metaconglomerate. Phyllite is darker: gray, pale red purple, and brownish-gray. Thin compositional layering of metasilstone and phyllite is common. Correlative with metasedimentary unit of the Battleground unit

Zbc Metaconglomerate - Contains rounded pebbles and cobbles, partially flattened, of quartzite and occasional clasts of mottled phyllite. Clasts are slightly aligned in the major foliation; foliation of white mica anastomoses around wedge-shaped clasts

Zbmp Mottled phyllite (lapilli metatuff) - Dark, spotted phyllitic rock, medium bluish-gray, and light to medium gray. Distinctive rounded and elliptical clast and lapilli component flattened in major foliation planes, which is mottled in appearance. Correlative with the mottled phyllitic metatuff of the Battleground Formation

Zbmp-a Siliceous alteraton zone within Zbmp

Zbct Crystal metatuff - Light greenish-gray, greenish-gray, pale gray, and light bluish-bray schist and gneiss. Microcrystalline to finely crystalline rock composed primarily of quartz and feldspar. Correlative with the plagioclase-crystal metatuff

Zbgs Greenstone - One occurrence of greenstone is noted, in the streambed of Kings Creek on the north side of Route 5. Pale green, fine-grained schist composed of chlorite, epidote, quartz, feldspar, and magnetite; it has a rounded and knobby surface appearance

Mixed Plutonic and Volcaniclastic Rocks

Zto Metatonalite and volcaniclastic rocks - Felsic rock of mixed origin and consisting of intrusive tonalite, dacitic flows, and epiclastic byproducts of both. The distinction between intrusive, extrusive, and sedimentary rocks is virtually indistinguishable biotite, and blue quartz granules. It has a homogeneous fabric with poorly developed, discontinuous biotite folia. Mafic inclusions, xenoliths, are common. Correlative in part with Horton's (2000) metatonalite (intrusive)

Ztom Metatonalite with mafic layers - Areas of metatonalite with greater proportion of mafic enclaves or xenoliths, enough to map. Large (meters) mafic inclusions of hornblende gneiss and epidote are found throughout the unit


Intrusive Rocks

Diabase - Mostly fine to very fine crystalline mafic igneous rock. Composed of pyroxene and plagioclase; ophitic texture present in coarse-grained varieties. Found as meter-thick layers at high angle foliation

mbg Metagabbro - Dark greenish-gray to greenish-black, fine- to coarse-crystalline mafic rock, composed of hornblende and plagioclase, some mafic grains may be relict pyroxene

Ztrn Interlayered mafic and felsic gneiss - Northern unit. White to very light gray, medium to finely crystalline felsic gneiss with serate texture. Felsic gneiss composed of feldspar, quartz, and muscovite. Mafic gneiss is dark greenish-gray to greenish-black composed of hornblende and feldspar

Ztrs Interlayered mafic and felsic gneiss - The southern unit (Ztrs) is exposed in the core of the South Creek antiform

 Overturned fold axis, arrow shows plunge direction